

AMENDMENTS TO THE CLAIMS:

Please amend the claims, as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A signal processing method comprising:
 - receiving a first signal for wireless communication signal, the first signal including distortion produced by pulse shaping;
 - obtaining an approximate function of the pulse shaping in the first signal approximation of the pulse shaping distortion;
 - separating the approximate function of pulse shaping approximation of the pulse shaping distortion from the first signal to obtain a second signal; and
 - processing the second signal to obtain a user signal.
2. (Original) The method of claim 1, further comprising:
 - conducting a single-user detection; and
 - obtaining an amplitude estimate and a symbol delay for a user in a frame.
3. (Original) The method of claim 1, wherein the second signal has insignificant or no pulse shaping effects.

4. (Currently Amended) The method of claim 1, wherein separating the approximate function of pulse shaping approximation of the pulse shaping distortion from the first signal comprises applying an equalization.
5. (Currently Amended) The method of claim 1, wherein separating the approximate function of pulse shaping approximation of the pulse shaping distortion from the first signal comprises applying a decision feedback equalization.
6. (Currently Amended) The method of claim 1, wherein separating the approximate function of pulse shaping approximation of the pulse shaping distortion from the first signal comprises applying at least one order of perturbation to adjust the approximate function of pulse shaping approximation of the pulse shaping distortion.
7. (Currently Amended) The method of claim 1, wherein separating the approximate function of pulse shaping approximation of the pulse shaping distortion from the first signal comprises:
 - applying at least two equalizations; and
 - repetitively applying at least one order of perturbation to adjust the approximate function of pulse shaping approximation of the pulse shaping distortion.

8. (Currently Amended) The method of claim 1, wherein separating the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion from the first signal comprises separating an approximately known function of pulse shaping from an unknown function of a time-varying channel function.
9. (Currently Amended) A signal processing method comprising:
 - receiving a first signal for wireless communication signal, the first signal including a non-channel function;
 - obtaining an approximate approximation of a the non-channel function ~~in the first signal;~~
 - separating the approximate approximation of the non-channel function from the first signal to obtain a second signal that includes a time-varying channel function; and
 - processing the second signal to obtain a user signal.
10. (Currently Amended) The method of claim 9, wherein the non-channel function comprises a ~~transformation function selected from a linear and continuous transformation function, including a pulse shaping function, and a low-pass filtering.~~
11. (Currently Amended) The method of claim 9, further comprising:
 - conducting a single user detection; and

obtaining an amplitude estimate and a symbol delay for a user in a frame
to obtain the approximate approximation of the non-channel
function.

12. (Original) The method of claim 9, wherein the second signal has insignificant or no non-channel functions.
13. (Currently Amended) The method of claim 9, wherein separating the approximate approximation of the non-channel function from the first signal comprises applying an equalization.
14. (Currently Amended) The method of claim 9, wherein separating the approximate approximation of the non-channel function from the first signal comprises applying a decision feedback equalization.
15. (Currently Amended) The method of claim 9, wherein separating the approximate approximation of the non-channel function from the first signal comprises applying at least one order of perturbation to adjust the approximate approximation of the non-channel function.

16. (Currently Amended) The method of claim 9, wherein separating the approximate approximation of the non-channel function from the first signal comprises separating an approximately known non-channel function from an unknown function of a time-varying channel function.
17. (Currently Amended) The method of claim 9, wherein separating the approximate approximation of the non-channel function from the first signal comprises:
 - applying at least two equalizations; and
 - repetitively applying at least one order of perturbation to adjust the approximate approximation of the non-channel function.
18. (Currently Amended) A signal processing system, comprising:
 - a receiver for receiving a first signal for wireless communication;
 - a tracking device for obtaining an amplitude estimate and a symbol delay for a user;
 - an approximating device, coupled to the tracking device, for providing an approximate approximation of a non-channel function in the first signal; and
 - a signal-separating device, coupled to the approximating device, for separating the approximate approximation of the non-channel function from the first signal to obtain a second signal that includes a time-varying channel function.

19. (Currently Amended) The ~~method system~~ of claim 18, wherein the non-channel function comprises a ~~transformation function selected from a linear and continuous transformation function, a pulse shaping function, and a low-pass filtering.~~
20. (Currently Amended) The ~~method system~~ of claim 18, wherein separating the ~~approximate approximation of the~~ non-channel function from the first signal comprises at least one of the following process:
 - applying at least one equalization; and
 - applying at least one order of perturbation to adjust the ~~approximate approximation of the~~ non-channel function.
21. (New) The method of claim 9, wherein an approximation of the non-channel function comprises an approximation of the non-channel distortion.